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(54) Title: METHODS OF PREPARING LYMPHOCYTES THAT EXPRESS INTERLEUKIN-2 AND THEIR USE IN THE TREATMENT OF CANCER

(57) **Abstract:** A method of preparing autologous T-lymphocytes for re-introduction into a patient having cancer, which method comprises obtaining peripheral blood mononuclear cells (PBMCs) from a patient immunized with an antigen of the cancer, stimulating the PBMCs with the antigen of the cancer *in vitro*, transducing the PBMCs with a retroviral vector, which (a) comprises and expresses a human interleukin-2 (IL-2) coding sequence operably linked to a retroviral promoter, (b) does not comprise an exogenously introduced gene that enables phenotypic selection, and (c) comprises a viral envelope that efficiently transduces CD8⁺ T-lymphocytes; a method of preparing autologous tumor-infiltrating lymphocytes (TILs) for reintroduction into a patient having cancer, which method comprises obtaining TILs from a tumor of the patient, optionally immunized with an antigen of the cancer, optionally stimulating the TILs with the antigen of the cancer *in vitro*, and transducing the TILs with the aforementioned retroviral vector; compositions comprising cells obtained in accordance with such methods; and methods of treating a patient having cancer by administering to the patient cells obtained in accordance with such methods or compositions comprising same.